



DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

DAVID Y. IGE
GOVERNOR

LUIS P. SALAVERIA
DIRECTOR

MARY ALICE EVANS
DEPUTY DIRECTOR

No. 1 Capitol District Building, 250 South Hotel Street, 5th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804
Web site: www.hawaii.gov/dbedt

Telephone: (808) 586-2355
Fax: (808) 586-2377

Statement of
LUIS P. SALAVERIA
Director
Department of Business, Economic Development, and Tourism
before the
HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Tuesday, March 17, 2015
8:30 a.m.
State Capitol, Conference Room 325

in consideration of
SB 717, SD2
RELATING TO ETHANOL.

Chair Lee, Vice Chair Lowen, and Members of the Committee.

The Department of Business, Economic Development & Tourism (DBEDT) offers comments on SB 717, SD2, which repeals the existing requirement that gasoline for motor vehicles be composed of 10 percent ethanol.

DBEDT acknowledges that ethanol has played a mixed role in Hawaii's renewable energy mix for transportation. Although ethanol has reduced the consumption of petroleum products in the transportation sector, it has been imported and has not been produced locally despite the availability of production tax credits. As Hawaii refiners face a more challenging future

consistent with the findings of the 2014 Hawaii Refinery Task Force Final Report¹, any added costs associated with ethanol blending could adversely affect gasoline price and supply.

Thank you for the opportunity to offer these comment\s regarding SB 717, SD 2.

¹ See Hawaii Refinery Task Report, Final Report (April 9, 2014) at 38, available at http://energy.hawaii.gov/wp-content/uploads/2011/08/HRTF_Final-Report_04-10-14.pdf

From: mailinglist@capitol.hawaii.gov
Sent: Saturday, March 14, 2015 3:59 PM
To: EEPtestimony
Cc: alohashellservice@hawaii.rr.com
Subject: Submitted testimony for SB717 on Mar 17, 2015 08:30AM

SB717

Submitted on: 3/14/2015

Testimony for EEP on Mar 17, 2015 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Paul Hanada	Aloha Shell Service	Support	No

Comments: Please support this bill. We have experienced a lot of costly negative impacts to our gasoline storage and dispensing equipment. Our customers are requesting non-ethanol fuel because of the negative impacts it has had on their vehicles and because they do not think it has reduced the amount of imported fuel.

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

Do not reply to this email. This inbox is not monitored. For assistance please email webmaster@capitol.hawaii.gov



777 North Capitol Street, NE, Suite 805, Washington, D.C. 20002

PHONE 202.545.4000 FAX 202.545.4001

GrowthEnergy.org

March 16, 2015

Representative Chris Lee, Chairman
Representative Nicole Lowen, Vice Chairman
House Committee on Energy and Environmental Protection
Hawaii State Capitol
415 South Beretania Street
Honolulu, HI 96813

Dear Chairman Lee, Vice Chairman Lowen, and the members of the Energy and Environmental Protection Committee,

Growth Energy is the leading trade association for America's ethanol producers and thousands of ethanol supporters. Growth Energy promotes decreasing our dependence on foreign oil, improving our environment, and creating American jobs through the expanded use of ethanol in gasoline. I write to you today in opposition to SB 717, legislation that would remove Hawaii's requirement that gasoline contain 10 percent ethanol. This legislation is unnecessary and would simply increase fuel costs for Hawaii's consumers.

Ethanol blended fuel has been critical to our nation's energy supply, national security, and helps to grow America's economy. Ethanol has been exhaustively tested and has been conclusively proven to be safe and effective for motor vehicle use and reduces toxic emissions such as carbon monoxide, benzene, and particulate matter. Additionally, the World Bank, the U.S. Department of Agriculture, and other third parties have concluded that ethanol production has had little impact on recent food inflation, and now corn actually costs less than it did when the bulk of the nation's ethanol production began in 2007.

Ethanol produced here in the U.S. helps reduce our dangerous dependence on foreign oil and saves American consumers \$100 billion each year in gasoline costs. Additionally, our industry contributes nearly \$53 billion to the U.S. economy and provides nearly 400,000 jobs that cannot be outsourced. In fact, according to a recent study by the Fuels America Coalition, Hawaii is the beneficiary of \$826.8 million of total economic output from biofuels each year. The biofuel sector in Hawaii supports 2,762 jobs, generates \$184.7 million in annual wages, contributing \$30 million in Federal taxes and \$33 million in Hawaii taxes.

Ethanol has also laid the groundwork for the development of next generation cellulosic and advanced biofuels in the state and throughout the country. Cellulosic and advanced biofuels, which can be produced from forest residues, algae, municipal solid waste, or other renewable sources of biomass, offer some of the most promising solutions to our dangerous dependence on foreign oil.

Actions potentially taken by the state of Hawaii to remove ethanol as a gasoline additive only make it more difficult for innovative, local companies to achieve the financing they need by limiting the market for these clean renewable biofuels.

The bill, if passed, would only increase costs at the pump for Hawaii consumers. From January 1, 2013, to the present, wholesale ethanol sold at an average 67 cent discount per gallon compared to the wholesale cost of gasoline, so a bill seeking to remove ethanol from the fuel supply would drive up costs to consumers. Additionally, the legislation would threaten the further development of cellulosic biofuels. Today, there is limited cellulosic production but the majority of production that is set to come online is done so with the use of renewable biomass. The country's first commercial cellulosic biorefinery, POET's Project Liberty, is a \$250 million project in Emmetsburg, Iowa, which opened in September of last year. Abengoa has a similar plant that opened in Hugoton, Kansas, in October. DuPont also has a plant expected to come online this year that uses the same type of technology to derive cellulosic biofuel from biomass. Using biomass for cellulosic biofuel has the potential to be used in all 50 states including Hawaii. With passage of SB 717, there would be uncertainty in the Hawaiian fuel marketplace for these biofuels, and this technology could be stifled.

We would be happy to further discuss the benefits of ethanol and biofuels with you, but strongly urge you to reject SB 717 because of its potential to harm Hawaii consumers and to continue our dangerous dependence on foreign oil.

Sincerely,



Tom Buis
CEO, Growth Energy

**Written Testimony of Eric Ebenstein
Director, State Government Affairs
POET Biofuel**

Hearing of the Hawaii House Committee on Energy and Environmental Protection
March 17, 2015

**OPPOSING Hawaii Senate Bill 717:
“RELATING TO ETHANOL”**

The Honorable Chris Lee, Committee Chair
The Honorable Nicole E. Lowen, Committee Vice-Chair
And the Members of the Committee on Energy and Environmental Protection:

Chairman Lee, Vice Chairwoman Lowen, and Members of the Committee:

POET Biofuel (POET) appreciates this opportunity to provide comments on SB 717, legislation to repeal the requirement that gasoline for motor vehicles sold in the state include ten percent ethanol. This proposal is of significant concern to POET, the companies it does business with throughout the country, and the thousands of farmers and small business owners that work with POET across the United States.

Founded in 1987 with the purchase of a small ethanol plant in Scotland, S.D., POET now employs more than 1,500 people at its companies and plants throughout the country. POET has 27 ethanol production facilities in 7 states.

POET opposes SB 717 because of the impact it would have on greenhouse gas emissions, fuel prices, and economic activity, as well as on research, development and commercialization of advanced and cellulosic biofuels in Hawaii and throughout the country.

Senate Bill 717 needlessly restricts consumer choice; risks exposing Hawaii residents to higher gas prices and increased emissions of greenhouse gases (GHGs) and other pollutants. Furthermore it puts at risk Hawaii’s future job growth in biotechnology.

SB 717 asserts that blending ethanol into gasoline does not produce any economic benefit for the state and that the import of ethanol creates an economic burden for state residents. Respectfully, the reverse is true. A quick review of publically available numbers (some of which was previously submitted as testimony) show the true story.

Available information shows that from January 1, 2013, to the present, wholesale ethanol sold at an average price of 67 cents less gasoline on a per gallon basis. This is an easily recognizable economic benefit to Hawaii’s citizens. Removing the ethanol requirement in gasoline would immediately drive up costs to consumers.

Cleaner air is another benefit Hawaii's citizens gain from the use of ethanol. Using ethanol in place of gasoline helps to reduce carbon dioxide emissions by an average of 34% as compared to gasoline. Cellulosic ethanol can help reduce it even further, up to nearly 100%. In 2013, the 13.3 billion gallons of ethanol produced reduced greenhouse gases by 38 million metric tons. That's the equivalent of taking 8 million cars off the road.

According to a recent study by The Fuels America Coalition, Hawaii is the beneficiary of \$826.8M of total economic output annually. The biofuels sector supports 2,762 jobs, and generates \$184.7M in wages annually, contributing \$30.2M in Federal taxes and \$33M in Hawaii taxes. The economic activity started by the renewable fuel sector creates a ripple effect as supplier firms and employees respond throughout the economy, creating output and jobs in industries and locations that can be far removed from the starting point and beneficial through Hawaii's economy.¹

Today, over 95 percent of the nation's gasoline supply today is E10. Infrastructure has been firmly established to produce almost all of our nation's fuel supply with ethanol which includes investment by blenders, terminals, and retail marketers in Hawaii and throughout the country. Refiners have optimized their blendstocks to take advantage of ethanol's high octane properties. Removing ethanol would force refiners to make gasoline with components that are both more expensive and have a negative impact on the nation's air quality in Hawaii and throughout the country.

It would be expensive and unnecessary to implement a law that would remove ethanol from our nation's fuel supply. This would create expense, a significant change in fuel infrastructure, and jeopardize consumer choice of cleaner, more affordable fuels at the pump

Introduction of ethanol into the fuel system (from the 10% level currently in HI to higher blends throughout the country) has played an important role in reducing U.S. dependence on foreign sources of petroleum, in reducing transportation fuel costs to the consumer, and in beginning to reduce the carbon intensity of the nation's transportation fuels.

The positive economic effect of ethanol and renewable fuels is felt right here in Hawaii. Ethanol produced in the United States helps Hawaii and other states reduce our dangerous dependence on foreign oil. Reducing dependence on fossil fuel is a major initiative of Hawaii. Passing this bill would be a step in the opposite direction.

Corn ethanol has also laid the groundwork for next generation cellulosic and advanced biofuels being developed in the State of Hawaii and throughout the country.

¹ <http://fuelsamerica.guerrillaeconomics.net/>, visited on 3/15/15

Cellulosic and advanced biofuels, which can be produced from forest residues, algae, municipal solid waste, or other renewable sources of biomass, offer some of the most promising solutions to high gas prices, U.S. dependence on foreign petroleum, and job losses in resource-dependent regions of the country.

This legislation would also harm the early-stage development of cellulosic biofuel. Ethanol from the residues of corn and other agricultural crops represents an immediate opportunity to use cellulosic technology. POET's Project Liberty, the country's first commercial cellulosic biorefinery uses corn residue as its feedstock. This \$250 million dollar project, in Emmetsburg, Iowa, began commercial operations last July. DuPont, who is also planning to testify against this legislation, has a cellulosic facility under construction as well. Hawaii, with its abundant biomass, has the opportunity for economic enrichment as this field matures.

POET respectfully urges the Committee to oppose SB 717. This government regulation on a renewable fuel as a gasoline blend would raise state energy prices, hurt competition and the environment, and negatively impact Hawaii's state biotech industry and infrastructure by undermining the continued research and development of cellulosic biofuel in Hawaii.

BIOENERGY ASSOCIATES LLC
1088 BISHOP STREET SUITE 1220
HONOLULU, HI 96813

March 16, 2015

Representative Chris Lee, Chair
Representative Nicole E. Lowen, Vice Chair
And Members of the Committee on Energy and Environmental Protection
Hawaii State Capitol
415 S. Beretania
Honolulu, HI 96813

Re: SB 717 SD2 – Relating to Ethanol

Dear Chair Lee, Vice Chair Lowen and Members of the Committee,

My name is William Maloney and I am the President of Bioenergy Associates LLC, a consulting firm specializing in the renewable fuels and renewable energy. I testify today in opposition to SB 717 SD2 which would repeal the ten per cent ethanol by volume requirement for gasoline sold in Hawaii for use in motor vehicles.

To provide you some background on myself, I am an internationally recognized expert on biofuels, and provide consulting services to both petroleum companies and biofuel producers and traders, and have been active in Hawaii in both project development and the petroleum and renewable fuels trade for many years. I am also uniquely aware of the specifics of ethanol as it relates to the Hawaiian market because I also serve as a consultant for Hawaiian petroleum company.

I was intimately involved with the rule promulgation for the ethanol blending requirement, as well as the creation of the ethanol facility tax credit, working closely with a previous Chair of this Committee, Hermina Morita. I fear that as so much time has passed a great deal of institutional memory has been lost, within the legislature, and also within DBEDT, who meticulously and with input from many parties, promulgated the rules for the ethanol blending requirement.

I note that this Committee previously declined to hear SB 717's companion bill, HB 743. I think this was a good decision, as the ethanol blending requirement is an example of thoughtful and good public policy that was designed to address several issues - not only to support local ethanol production.

Section 1 of SB717 SD2 states that "This requirement of blending ethanol into Hawaii's gasoline does not produce any economic benefit for the State; further, the import of ethanol creates an economic burden for state residents." This premise on which the bill is based is simply factually incorrect, as the opposite is true – even if the ethanol being blended into Hawaii's gasoline is imported.

The ethanol blending mandate was enacted for several reasons, including: 1) to ensure a local market for fuel ethanol, and thereby to spur investment in local ethanol production; 2) to introduce price competition into Hawaii's petroleum sector, as previous to the mandate the local refineries refused to produce a base gasoline suitable for ethanol blending, blocking independent oil companies from blending the less-expensive ethanol, and stifling competition in the petroleum sector; 3) to provide Hawaii's consumers with cleaner burning gasoline, reducing toxic emissions; 4) to reduce the use of fossil fuels,

and convert to renewable fuels; 5) to reduce imports of petroleum from non-US sources, and, perhaps most importantly; 6) to lower the carbon content of Hawaii's fuels and thereby reduce greenhouse gas emissions.

While there has yet to be local ethanol production, despite the efforts of many, and millions of dollars of investment in attempts to create local production, the ethanol mandate has been very successful in accomplishing all of the other very desirable objectives – it has and will continue to benefit Hawaii's consumers with price competition by reducing wholesale gasoline prices with E-10 blends, and has been and will continue to significantly reduce greenhouse gas emissions from Hawaii's motor vehicles.

I oppose SB 717 SD2 for several reasons, which I summarize below:

- Ethanol blending was implemented to reduce the greenhouse gas emissions emanating from Hawaiian gasoline. As an island state greenhouse gases and global climate change are existential issues. Both California and Oregon have instituted low carbon fuel requirements that recognize the increasing positive impact of ethanol as a low carbon fuel. Washington State's Governor Jay Inslee has recently proposed similar legislation. It is ironic that Hawaii, who was a leader in this area, and is more greatly influenced by the effects of climate change, is considering stepping back from requiring a reduction in greenhouse gas emissions by requiring ethanol blending in gasoline.

The US Department of Energy using the GREET model estimates that each gallon of ethanol blended has a resultant greenhouse gas reduction of 34% for corn ethanol and 51% for sugarcane ethanol (both have been and are blended in Hawaii).¹ The Table below sets forth the conclusions from the above referenced comprehensive study conducted by the US Department of Energy's Argonne National Laboratory comparing the life cycle emissions ethanol and petroleum.

Table 7. WTW GHG emission reductions for five ethanol pathways (relative to WTW GHG emissions for petroleum gasoline). (Note: Values in the table are Greenhouse Gas ("GHG") reductions for P10–P90 (P50), all relative to the P50 value of gasoline GHG emissions.)

Well To Wheels GHG Emission Reductions	Corn	Sugarcane	Corn Stover	Switchgrass	Miscanthus
Including Land Use Changes Emissions	19-48% (34%)	40-62% (51%)	90-103% (96%)	77-97% (88%)	101-115% (108%)
Excluding Land Use Changes Emissions	29-47% (44%)	66-71% (68%)	89-102% (94%)	79-98% (89%)	88-102% (95%)

Using the US EPA's estimate of 19.4 pounds of CO₂ per gallon of gasoline, and 35 million gallons per year of ethanol blended in Hawaii, and the lower estimate of corn ethanol with land use changes emissions, **the greenhouse gas reduction is an estimated 115,430 tons - 173,745 tons per annum, meaning over the initial nine years of ethanol being blended in Hawaii's**

¹ Well-to-Wheels Energy Use and Greenhouse Gas Emissions of Ethanol From Corn, Sugarcane and Cellulosic Biomass for US Use. Michael Wang, Jeongwoo Han, Jennifer B Dunn, Hao Cai and Amgad Elgowainy. Systems Assessment Group, Energy Systems Division, Argonne National Laboratory, 9700 South Cass Avenue, Argonne, IL 60439, USA. Published 13 December 2012. Online at stacks.iop.org/ERL/7/045905.

gasoline, a minimum of an estimated 1,038,870 tons - 1,558,305 tons of greenhouse gas reduction has already been achieved.

- Prior to the rule promulgation in 2004 and commencement of the requirement in 2006, the refiners refused to cooperate to either contract for local ethanol production or allow the independents (at the time Aloha and ConocoPhillips as 76 Brand) to blend ethanol, that had a significant price advantage over gasoline in the marketplace. This was done to impede competition in the petroleum sector. The refiners have to produce a base gasoline, called a BOB (base oxygenate blendstock), suitable for ethanol blending, and prior to the ethanol blending requirement they simply refused to do so - as blending ethanol by the independents would enable them to lower prices using the lower net cost of ethanol. I am concerned, and suggest legislators should recognize that without the ethanol blending requirement the refiners may, once again, impede competition in the marketplace by ceasing to produce a BOB, resulting in less competition and higher gasoline prices for Hawaiian consumers.
- The current requirement only mandates ethanol be blended if its net cost is lower than gasoline - which protects consumers. If ethanol costs more than gasoline, and its blending would drive up gasoline prices, its blending is not required. The historical and current price relationships between ethanol and gasoline make it clearly evident that Hawaii has benefitted from the ethanol blending requirement, and will continue to benefit from the ethanol blending requirement. Currently, the Oil Price Information Service ("OPIS") reports that the West Coast prices of ethanol and gasoline, which Hawaii's ethanol and gasoline petroleum prices relate to, indicate that ethanol is currently priced ~\$0.37 per gallon below the price of gasoline².

Data from OPIS and the US Energy Information Administration (US EIA) indicate that just over the period 2011 – 2014 net ethanol prices also averaged ~\$0.37 per gallon less than gasoline prices. **Assuming 36 million gallons per annum of ethanol blended in Hawaii annually, over the four year period 2011 – 2014 alone this resulted in over \$53 million of cost savings attributable to the ethanol blending requirement.** This cost savings figure would likely more than double if one calculates back to the inception of the ethanol blending requirement in 2006.

- The current requirement only requires ethanol be blended in 85% of Hawaiian gasoline - leaving room for supply disruptions, and instances where non-ethanol blends may be preferred, e.g., certain antique cars, boats, etc.
- Requiring blending at the State level ensures that there is a significant reduction in the pollution characteristics of tailpipe emissions, backing out toxic and in some cases carcinogenic aromatics like benzene, toluene, and xylene from Hawaiian gasoline.
- The federal Renewable Fuel Standard which requires biofuels, including ethanol and biodiesel nationally, has a provision that allows refiners not to blend, and to instead buy credits, called RINS (for Renewable Identification Numbers). This is the cost to not-blend. The OPIS price report dated March 16, 2015 reported mean 2015 RIN prices at \$0.70450 per gallon³, meaning

² Oil Price Information Service, Biofuels Update march 13, 2015 and OPIS EBIS Information Service, March 16, 2015, Volume 12 Issue 11.

³ Oil Price Information Service EBIS Information Service, March 16, 2015, Volume 12 Issue 11.

that refiners in Hawaii could buy RINS at that price, and simply raise the wholesale price of gasoline by \$0.0745 per gallon (one-tenth of the RIN price per gallon of gasoline as impact of 10% ethanol), and pass the additional cost on to independents and ultimately the consumers, without anyone knowing. At the same time, they might simply dump more toxics in the gasoline, and impede the independents from blending ethanol to remain competitive, by no longer producing the BOB.

I believe the above are compelling reasons why the existing State of Hawaii ethanol blending requirement should be maintained, and should not be repealed, or modified in any way. It is clear that repeal will not only eliminate any further investment initiatives in local ethanol production, but will reduce competition in the petroleum sector, creating upward pressure on petroleum prices, possibly lead to increased pollution from toxics, potentially increase dependence on foreign fossil fuels, and will necessarily and significantly contribute to increased greenhouse gas emissions.

In conclusion, as the Committee, and the Hawaii legislature, examines ethanol use in gasoline, and the requirement to blend 10% ethanol in 85% of Hawaii's gasoline anecdotes and assertions not supported by independent facts or publicly disseminated market pricing should not form the basis of public policy decisions. Blending ethanol in Hawaii has been and is a significant net benefit to Hawaii, its environment and its consumers. I urge you and your colleagues to apprise yourselves of the facts included herein, available from published and peer reviewed data, and to stop attempts to implement poor public policy decisions by based on false premises or misrepresented or misunderstood information.

I urge you to oppose SB 717 SD2, as the basis for ceasing the ethanol blending requirement are incorrect, and the benefits to Hawaii far outweigh any negatives.

Thank you for your consideration.

Sincerely,

By /s/ *William M. Maloney*

William Maloney

President

Bioenergy Associates LLC



SB 717 SD2 Relating to Ethanol
Committee on Energy and Environmental Protection
Tuesday March 17, 2015
Room 325 at 8:30 a.m.

Position: Opposed

Chair Lee, Vice Chair Lowen and Members of the Committee on Energy and Environmental Protection,

DuPont wishes to highlight what we believe to be unintended consequences with S.B. 717. DuPont brings the perspective of a company deeply involved in the agricultural and biofuels industries. We are an industry leader in providing products for agricultural energy crops, feedstock processing, animal nutrition, and biofuels. Our three-part approach to biofuels includes: (1) improving existing ethanol production through differentiated agriculture seed products, crop protection chemicals, as well as enzymes and other processing aids; (2) developing and supplying new technologies to allow conversion of cellulose to ethanol; and (3) developing and supplying next generation biofuels with improved performance, such as biobutanol. Our view is that the legislation would harm, rather than help Hawaii consumers. Limiting ethanol and other biofuels in gasoline is impractical, prevents high quality and lower cost fuels from the marketplace, prevents consumer choice and ignores the environmental and national security benefits of biofuels.

DuPont has significant investments in advanced biofuels that will make transformative contributions to our nation's energy security, reduce greenhouse gas emissions and strengthen rural economies. One of DuPont's advanced renewable fuels is cellulosic ethanol. We have been developing our technology for a decade, and since 2009 we have operated a demonstration facility in eastern Tennessee producing ethanol from both corn stover and switchgrass. Our experience in Tennessee has made us very confident in our technology and engineering for a commercial-scale facility. In addition, we have worked closely with farmers, equipment makers and others for three years of large-scale corn stover harvest trials to demonstrate the ability to manage a cost-effective cellulose supply chain. This work has culminated in our construction of a 30-million gallon per year facility located in central Iowa that is scheduled to begin producing cellulosic ethanol from corn stover in 2015.

Corn stover capitalizes on existing infrastructure to provide rapid expansion in ethanol production from non-food feedstocks. Existing farm equipment will harvest an appropriate amount of stover, leaving behind enough for soil conditioning and erosion control. The stover will be transported to a cellulosic conversion unit co-located with an existing biorefinery where it will be processed and fermented. The result will be a 20-25% increase in ethanol production from existing acreage, providing expanded economic opportunity to growers and potential investors in advanced biofuel capacity. The stover from fields that are currently producing corn for food and feed uses will yield additional biofuels volumes, further expanding the ability of agriculture to produce food, feed and fuel.



I. S.B. 717 would harm rather than help Hawaii consumers.

S.B. 717 is unnecessary and counter-productive. It is unnecessary because oil companies and refiners are obligated to blend ethanol and other biofuels pursuant to the federal Renewable Fuel Standard. As a result, removing the requirement that gasoline contain ten percent ethanol will have no effect on the actual quantity of ethanol blended.

S.B. 717 is also counter-productive. Even if S.B. 717 were successful in reducing the quantity of ethanol blended, the legislation would reduce consumer choice and force Hawaii families and businesses to bear higher costs. Not only is ethanol cheaper than gasoline, but by limiting fuel options, Hawaii would increase its reliance on a limited number of outside suppliers. The logistical and economic costs of a segregated fuel supply would likely put independent Hawaii fuel distributors out of business, increase imports, and raise the cost of gasoline in the state by 15 to 20 cents per gallon or more.

II. S.B. 717 would make Hawaii and the U.S. more dependent on foreign oil.

Less biofuel means more foreign oil and more American dollars sent overseas. That's good news for the Middle East. That's bad news for America. Ten of the 11 U.S. recessions since World War II have been preceded by significant oil price spikes. Ethanol has helped permanently reduce our reliance on imported oil. In 2013 alone, domestic ethanol displaced more than 460 million barrels of oil.¹ Continued reliance on oil regardless of its source burdens American families and our economy to the volatility of the global oil market and those who control it. For example, the 2014/15 fall in oil prices is not a permanent condition. It is credited by many to be a conscious decision by OPEC to squeeze oil producers, in the U.S. and others outside the Middle East, out of the global market. Industry-watchers speculate that the future in 2015 could rely on the actions of a single country – Saudi Arabia. This is not a solution for American consumers.

III. Future growth in biofuels supply will come largely from non-food related feedstocks.

Ethanol, and more so cellulosic ethanol, has a positive environmental benefit. Ethanol reduces tailpipe carbon monoxide emissions by as much as 30%, toxics content by 13% (mass) and 21% (potency), and tailpipe fine particulate matter (PM) emissions by 50%, leading to better air quality.² Cellulosic ethanol regardless of the feedstock must meet a minimum 60% reduction in greenhouse gas emissions. Based on a life cycle analysis, DuPont's corn stover cellulosic ethanol meets a greater than 70% reduction in greenhouse gas emissions. Excluding this fuel from the transportation supply significantly reduces the greenhouse gas benefits.

IV. Blending ethanol into the fuel supply does not drive up food and feed prices.

One-third of every bushel of grain processed into ethanol is enhanced and returned to the animal feed market in the form of distillers grains, corn gluten feed or corn gluten meal. The

¹ <http://www.ethanolrfa.org/pages/ethanol-facts-energy-security>

² <http://www.ethanolrfa.org/pages/ethanol-facts-environment>



price of crude oil continues to be the largest factor affecting grain prices. In fact grain prices have dropped significantly since the drought in 2012, while ethanol production has remained steady.³ In 2013 the World Bank concluded that almost two-thirds of the post-2004 food price increase is attributable to the price of crude oil, reinforcing the near-perfect correlation of oil and food prices.

A co-product of the ethanol process is dried distiller's grain (DDGs), a valuable and unique feed product. Because the starch has been removed to produce ethanol, only protein, oil and fiber remain with the kernel. Dried distiller's grains concentrate the nutritional value. DDGs have reduced animal feed costs on the order of \$5 to \$20 per ton and DuPont enzymes further improve nutrient digestibility of animal feed and animal gut health. For example, DuPont's phytase enzyme improves the nutritional value of feed by unlocking the phosphorus tied up by phytic acids in plants. This enzyme also reduces the need to add organic phosphate to feed which is an added cost to the farmer and results in higher phosphorous levels in manure and run-off.

V. Auto manufactures have increased the number of vehicles that can accept higher ethanol blends.

Approximately 80 percent of current light-duty automobiles in service today were built in 2001 or later, meaning four out of every five cars and light trucks on the road are approved by EPA to use fuel with up to 15 percent ethanol. The use of E15 is explicitly approved by the manufactures of more than 60 percent of model year (MY) 2014 light-duty vehicles sold in the United States.⁴ Automakers offering unequivocal E15 warranty coverage for some or all of their MY2014 vehicles (regardless of whether they are flex-fuel vehicles) include: General Motors, Ford, Toyota, Honda, Volkswagen, Mercedes-Benz, Jaguar, and Land Rover. All of these automakers also manufacture flex-fuel vehicles (FFVs), capable of operating on blends up to E85. Moreover, all automakers manufacturing flex-fuel vehicles including Chrysler, Nissan and Audi, warranty the use of E15 in flex-fuel vehicles.

For E85 flex fuel vehicles, some of the major automobile manufacturers in the U.S., including Ford, Chrysler and General Motors, have all pledged to make 50% of all new vehicles coming off their assembly line model year 2012 and beyond FFVs.

In addition to lower prices and improved environmental footprint, E15 is a high quality fuel. Since 2011, NASCAR has been partnering with American Ethanol and competitors in the motorsport's three major national racing series—NASCAR Sprint Cup Series, NASCAR Nationwide Series, and NASCAR Camping World Truck Series—have reached more than three million miles in race, practice and qualifying on E15. NASCAR officially hit the three million mile mark with the new fuel in mid-September 2012 at the Hawaii Motor Speedway.

VI. Small engines and other non-road use engines can successfully run on ethanol blends.

While it is always best that customers purchase only the fuel recommended by the equipment manufacturer, small engines can run on ethanol blends. Like all gasoline, ethanol blended

³ http://www.farmdoc.illinois.edu/manage/uspricehistory/us_price_history.html

⁴ http://ethanolrfa.3cdn.net/105417c2c09af674d7_2vm6bfnjy.pdf



gasoline can go stale. Stale fuel is nothing new and existed long before there was any ethanol blended fuel. While ethanol separation can be a problem there are simple solutions that can be taken to prevent it. ECHO Outdoor Power Equipment recommends:

- Using proper fuel containers that do not have open or leaking spouts or separate vents. Fuel exposed to air attracts moisture;
- Purchasing only enough fuel for 30 days of use;
- Shaking the fuel container for 30 seconds just prior to filling equipment. This practice ensures the fuel is mixed properly and helps to suspend any small amounts of moisture in the mixture.
- Storing fuel in a cool dry area, which extends fuel life and slows the aging process;
- When storing the equipment for over 30 days, drain the fuel completely from the carburetor and the fuel tank.

As a company with a 211-year history of technical innovation and manufacturing expertise, DuPont has invested hundreds of millions of dollars to develop technologies that will deliver additional home-grown energy, along with abundant food, feed, and materials globally. We urge you to oppose S.B. 717, which would impose additional economic burdens on Hawaii families and businesses, while denying access to biofuels' present and future benefits.



SB 717 SD2 Relating to Ethanol
Committee on Energy and Environmental Protection
Tuesday March 17, 2015
Room 325 at 8:30 a.m.

Position: Opposed

Chair Lee, Vice Chair Lowen and Members of the Committee on Energy and Environmental Protection,

We would like to highlight what we believe to be unintended consequences with S.B. 717 SD2. DuPont brings the perspective of a company deeply involved in the agricultural and biofuels industries. We are an industry leader in providing products for agricultural energy crops, feedstock processing, animal nutrition, and biofuels.

It is premature to pass a bill that could have significant impacts for Hawaii, and unintended consequences for the future, without gaining a better understanding of the implications. No ethanol plants currently exist in the State. If Hawaii is to attract new investments in ethanol and other advanced biofuels, positive and consistent policy support for biofuels is a pre-requisite.

Taking the drastic step of eliminating ethanol in fuels will send a negative ripple across the biofuels and energy crop sector throughout Hawaii, negatively impacting the economics of the renewable energy and biofuels sector of our economy. We have seen great reductions in sugarcane and pineapple production over the years. The one remaining sugarcane operation on Maui, HC&S, is struggling. As more productive agricultural land is available and we seek agricultural land use alternatives, we do not need legislation that could make it even more difficult for biofuels and energy crop projects to attract funding due to the bad precedence SB 717 would set.

S.B. 717 is also counter-productive. Even if S.B. 717 were successful in reducing the quantity of ethanol blended, the legislation would reduce consumer choice and force Hawaii families and businesses to bear higher costs. Not only is ethanol cheaper than gasoline, but by limiting fuel options, Hawaii would increase its reliance on a limited number of outside suppliers. The logistical and economic costs of a segregated fuel supply would likely put independent Hawaii fuel distributors out of business, increase imports, and raise the cost of gasoline in the state by 15 to 20 cents per gallon or more.

Thank you for the opportunity to provide testimony in opposition to this ethanol bill.



**Testimony of the
Biotechnology Industry Organization (BIO)**

Hearing of the Hawaii House Energy and Environmental Protection Committee
March 17, 2015

Regarding Hawaii SB 717:

**“AN ACT TO REPEAL THE REQUIREMENT THAT GASOLINE FOR MOTOR
VEHICLES IN THE STATE INCLUDE 10% ETHANOL”**

The Honorable Chris Lee, Committee Chair
The Honorable Nicole Lowen, Committee Vice-Chair
And the Members of the Energy and Environmental Protection Committee:

Chairman Lee, Vice Chairman Lowen, and Members of the Committee, the Biotechnology Industry Organization (“BIO”) appreciates this opportunity to provide comments on SB 717, legislation repealing the requirement that gasoline for motor vehicles in the state include 10% ethanol. This proposal is of significant concern to BIO and its members in the State of Hawaii and throughout the country.

BIO is the world’s largest biotechnology organization with more than 1,000 member companies worldwide. BIO represents leading technology companies in the production of conventional and advanced biofuels, renewable chemicals, biobased products and other sustainable solutions to energy and climate challenges. BIO also represents the leading developers of new crop technologies for food, feed, fiber, and fuel.

BIO opposes SB 717 because of the impact such legislation would have on research, development and commercialization of advanced and cellulosic biofuels and other innovative products of industrial biotechnology in Hawaii and throughout the country, and on the price of gasoline for Hawaii consumers. It needlessly restricts consumer choice; risks exposing Hawaii residents to higher gas prices and increased emissions of greenhouse gases (GHGs) and other pollutants; and puts at risk Hawaii’s future job growth in biotechnology.

The national adoption of ethanol and other biofuels has played an important role in reducing U.S. dependence on foreign sources of petroleum, in reducing transportation fuel costs to the consumer, and in beginning to reduce the carbon intensity of the nation’s transportation fuels. It has also paved the way for promising next generation cellulosic and advanced biofuels being developed in the State of Hawaii and throughout the country. Limiting the use of ethanol thus closes off a major source of potential economic development in the State that



would come from its production of ethanol from feedstocks grown in HI, such as sugarcane, energy grasses, and algae. It also prevents the use of more sustainable fuels.

Cellulosic and advanced biofuels, which can be produced from forest residues, algae, municipal solid waste, or other renewable sources of biomass, offer some of the most promising solutions to high gas prices, U.S. dependence on foreign petroleum, and job losses in resource-dependent regions of the country, such as Hawaii. Innovative industrial biotechnology developers – including Cellana Corporation, a leading developer of algae-based bioproducts, based right here in Hawaii – already face a very challenging environment trying to secure private capital to commercialize their technologies.

Actions by the State of Hawaii to repeal the state's renewable fuel standard only exacerbate the financing challenge to local companies by destabilizing the policy environment for all biofuels. For example, the recent proposal by the U.S. Environmental Protection Agency (EPA) to limit conventional biofuel volumes in 2014 under the federal Renewable Fuel Standard (RFS) has resulted in suspension of commercialization plans by several leading cellulosic biofuel developers.^{i, ii}

Hawaii has also been home to the Navy biofuel research conducted at the U.S. Pacific Command and the Great Green Fleet. The Navy, like Hawaii, is almost totally dependent on fossil fuels which are priced on a global market. Continued support of biofuels in Hawaii will help advance both the state and military's goals of energy and national security.

Moreover, Hawaii has received over \$79 million in USDA energy program funds developing renewable biomass in the state. Passing SB 717 would send the industry and its investors the wrong message and would chill investment in research and development for advanced and cellulosic biofuels – as well as other promising biobased technologies, such as renewable chemicals and plastics produced from algae – and possibly send the unintended signal to investors that Hawaii is hostile to all biofuels.

The proposed legislation also hurts Hawaii consumers. Simply having an alternative fuel in any market helps drive down the price for consumers at the pump. The production and use of renewable fuel has kept oil costs between \$15 and \$40 per barrel lower than they would have been.ⁱⁱⁱ This translates to a reduction in gasoline prices at the pump between \$0.50 and \$1.50, saving U.S. consumers between \$700 billion and \$2.6 trillion during 2013.^{iv} Price supports for advanced biofuels under the RFS compliance mechanisms will ensure that new fuels will also present significant value to consumers. In Hawaii, the cost of importing oil is high both economically and with respect to Hawaii's carbon footprint, since oil has to be transported such a long distance.



Sale of transportation fuel is heavily controlled by major oil companies through marketing agreements with branded retailers. As with advanced ethanol, emerging “drop-in” advanced biofuels, such as biobutanol and renewable hydrocarbon fuels, will require enforcement of fuel choice laws, such as the RFS, to provide investors with confidence that there will be market access for these new fuels when they are commercialized. Actions by states to limit market access to new fuel entrants substantially erode this confidence, further complicating the already challenging task of securing private capital for first-of-a-kind biorefineries. In addition, while Hawaii could produce its own ethanol from feedstocks grown on the island, it does not have a similar opportunity with respect to oil, since there are no opportunities for Hawaii to drill for oil.

Finally, repealing the state’s renewable fuel standard will increase emissions of GHGs and other pollutants resulting from combustion of transportation fuel in Hawaii. Refiners need ethanol for octane trimming. Removing ethanol increases use of toxic aromatics for octane and could expose the public to more air toxins. Ethanol is also used presently as an oxygenate, and helps states comply with their carbon monoxide standards. And by removing ethanol from the gasoline supply, Hawaii could make it more difficult for the state to meet its national ambient air quality standards under Federal law.

Renewable fuel use in the U.S. slashed greenhouse gas emissions by 33.4 million metric tons in 2012^v and is expected to reach 138 million metric tons per year when the RFS is fully implemented in 2022.^{vi} In practice, greenhouse gas reductions are likely to be even more significant. Many cellulosic and other advanced biofuel pathways approved by EPA already substantially exceed the minimum GHG reductions required by the law. For example, the INEOS Bio process, which is being commercialized at a new biorefinery in Vero Beach, Florida, reduces greenhouse gas emissions up to 109% — a net carbon savings. Future feedstock and conversion technology improvements will drive GHG reductions even further. In contrast, lifecycle GHG emissions for petroleum are increasing with time. “Well-to-Wheel GHG emissions” of gasoline produced from Canadian tar sands, for example, emit 14% to 20% more GHGs than the weighted average of transportation fuels sold or distributed domestically. The GHG reductions produced by biofuels are a vital part of the nation’s effort to combat climate change. It is crucial we maintain the opportunities for biofuels growth to achieve these environmental gains.

Companies like Cellana and DuPont and the more than 80 BIO members developing next generation biofuels, renewable chemicals and biobased products are working to create sustainable jobs for the future. A recent report, *U.S. Economic Impact of Advanced Biofuels Production: Perspectives to 2030*, indicates that cellulosic and advanced biofuels production



under the RFS could create over half a million jobs in the U.S., many of which would be tied to sustainable sources of renewable biomass like algae.^{vii}

BIO urges the Committee to oppose SB 717. The proposed repeal of the state's renewable fuel standard would hurt consumers at the pump and would undermine investment in the continued research, development and production of advanced and cellulosic biofuels in Hawaii and beyond.

ⁱ <http://thehill.com/blogs/congress-blog/energy-environment/196891-wavering-policy-spells-disaster-for-renewable-fuel>;

ⁱⁱ <http://biomassmagazine.com/articles/9920/industry-says-rfs-proposal-will-chill-cellulosic-investments>

ⁱⁱⁱ Philip K. Verleger, "Doubling World Oil Prices: The Success of International Energy Agreements," The Petroleum Economics Monthly, Vol. XXX, No. 8, Aug. 2013.

^{iv} Philip K. Verleger, "Commentary: Renewable Fuels Legislation Cuts Crude Prices." PKVerlegerLLC.com, Sept. 23, 2013. http://www.pkverlegerllc.com/assets/documents/130923_Commentary1.pdf

^v Renewable Fuels Association, "Battling for the Barrel: 2013 Ethanol Industry Outlook." Washington, DC: February 2013, p.18.

^{vi} US EPA, "Renewable Fuel Standard Program (RFS2) Regulatory Impact Analysis." Washington, DC: EPA-420-R-10-006, February 2010.

^{vii} <http://bio.org/ind/advbio/EconomicImpactAdvancedBiofuels.pdf>

From: mailinglist@capitol.hawaii.gov
Sent: Sunday, March 15, 2015 9:54 PM
To: EEPtestimony
Cc: jamesjtz@aol.com
Subject: Submitted testimony for SB717 on Mar 17, 2015 08:30AM

SB717

Submitted on: 3/15/2015

Testimony for EEP on Mar 17, 2015 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
James Gauer	Individual	Support	No

Comments: Repealing this law removes unnecessary economic burden by the state when no ethanol plant exists on Hawaii nor seems to be in the works. Focusing on divesting assets may help in the divest movement starting with University of Hawaii Manoa.

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

Do not reply to this email. This inbox is not monitored. For assistance please email webmaster@capitol.hawaii.gov

lowen2-Thomas

From: mailinglist@capitol.hawaii.gov
Sent: Sunday, March 15, 2015 6:05 AM
To: EEPtestimony
Cc: anthuriumz@hotmail.com
Subject: Submitted testimony for SB717 on Mar 17, 2015 08:30AM

SB717

Submitted on: 3/15/2015

Testimony for EEP on Mar 17, 2015 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
wynnie hee	Individual	Support	No

Comments: Yes, please stop requiring 10% ethanol in our gasoline -- most of it is imported and made from GMO corn. So much for GMOs feeding the world.

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

Do not reply to this email. This inbox is not monitored. For assistance please email webmaster@capitol.hawaii.gov



Hawaii Crop Improvement Association

Growing the Future of Worldwide Agriculture in Hawaii

HOUSE COMMITTEE ON ENERGY
& ENVIRONMENTAL PROTECTION
Testimony on Senate Bill 717
Repeals requirement for 10% Ethanol
March 17, 2015. Room 325. 8:30 am

LATE

HCIA 2014-2016 Board of Directors

President

Kirby Kester

Vice President

Alan Takemoto

Secretary

Dawn Bicoy

Treasurer

Keith Horton

Directors At Large

Blaise Boyle
Cindy Goldstein
Adolph Helm
Steve Lupkes
Grant Manning
Shay Sunderland
Mark Stoutemyer

Immediate Past President

Mark Phillipson

Executive Director

Bennette Misalucha

Aloha Chair Lee, Vice Chair Lowen and Members of the Committees,

My name is Bennette Misalucha, Executive Director of the Hawaii Crop Improvement Association. HCIA is a Hawaii-based non-profit organization that promotes ag bio tech to help farmers and communities succeed. Through education, collaboration and advocacy, we work to ensure a safe and sustainable food supply, support responsible farming practices and build a healthy state economy.

HCIA respectfully opposes SB 717.

The benefits of using ethanol as an alternative source of fuel have already been well established. It is with this in mind that the Hawaii legislature established a law five years ago which would require all gasoline in the state used for motor vehicles be composed of 10 percent ethanol.

We understand that now there appears to have been a change of heart, particularly because, despite the fact that several biomass, biofuel, or ethanol facilities have been proposed, none was established, and as such, Hawaii does not derive economic benefits from the current law.

We contend that in matters of environmental issues, The State ought to take a long term view. Although, the economic benefits may not be easily quantified at the moment, there are social and environmental benefits that should rationalize maintaining this law.

Repealing this requirement sends a wrong message about the State's commitment to move away from its dependence on fossil fuels.

We understand there continues to be business interests in establishing ethanol facilities in the State; however, if a repeal is enacted, then the likelihood of any future investment into ethanol production becomes even more remote. The State needs to provide a good environment which would attract future investors, and create the groundswell towards the use of alternative sources of energy.

We urge the members of the House Energy and Environmental Protection Committee to reject SB 717.

Thank you for the opportunity to submit testimony.

P.O. Box 126
Aiea, HI 96701
Tel: (808) 594-3611
director@hciaonline.com
admin@hciaonline.com
www.hciaonline.com

From: mailinglist@capitol.hawaii.gov
Sent: Monday, March 16, 2015 7:18 PM
To: EEPtestimony
Cc: lho@hawaiipublicpolicy.com
Subject: Submitted testimony for SB717 on Mar 17, 2015 08:30AM

LATE

SB717

Submitted on: 3/16/2015

Testimony for EEP on Mar 17, 2015 08:30AM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Chevron	Chevron	Comments Only	Yes

Comments: The law requiring a 10% blend ethanol blend for motor gasoline was adopted into statute to promote the agriculture industry in the 1990s. Subsequently, the administrative rules requiring 85% of all motor gasoline distributed in Hawaii contain 10% ethanol (E10) were adopted by DBEDT in 2004. Allowing for an 18 month transition period, E10 started in April 2006. We respectfully request an implementation date of December 31, 2015 if this measure moves forward to allow the industry to adequately address potential logistical or infrastructure changes that may be necessary to reintegrate fuel without ethanol into the marketplace.

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

Do not reply to this email. This inbox is not monitored. For assistance please email webmaster@capitol.hawaii.gov



Board of Directors

Richard Rowland
Chairman and Founder

Keli'i Akina, Ph.D.
President/CEO

Eddie Kemp
Treasurer

Gilbert Collins

Robin Tijoe

March 17, 2015
8:30 AM
Conference Room 325

To: House Committee on Energy and Environmental Protection
Rep. Chris Lee, Chair
Rep. Nicole Lowen, Vice Chair

From: Grassroot Institute of Hawaii
President Keli'i Akina, Ph.D.



RE: SB 717 -- RELATING TO ETHANOL
Comments Only

Dear Chair and Committee Members:

The Grassroot Institute of Hawaii would like to offer its comments on SB 717, which would repeal the requirement that gasoline sold in the state for use in motor vehicles be composed of 10% ethanol.

The ethanol requirement is a classic example of a law that raises the cost of living and doing business in the state without any corresponding benefit to our economy. It has the effect of raising fuel costs, as a gallon of ethanol is more expensive than a gallon of gasoline (an average of \$2.40 versus \$1.73 per gallon as of December 2015),¹ but is not as efficient. According to the Department of Energy, vehicles typically get 3-5% fewer miles per gallon on fuel that consists of an ethanol blend as opposed to 100% gasoline.² The Manhattan Institute for Policy Research estimates that since 2007, the federal ethanol requirements have cost Americans, "more than \$10 billion per year in extra fuel costs above what they would have paid if they had purchased gasoline alone."³

Moreover, recent research has cast serious doubt on the claim that ethanol is better for the environment. California regulators examining the total environmental cost of ethanol estimate

¹ Bryce, Robert. "End the Ethanol Rip-off," *New York Times*. March 10, 2015. Available at http://www.nytimes.com/2015/03/10/opinion/end-the-ethanol-rip-off.html?_r=0.

² See <http://www.fueleconomy.gov/feg/ethanol.shtml>.

³ Bryce, Robert. *The Hidden Corn Ethanol Tax: How Much Does the Renewable Fuel Standard Cost Motorists?*. Manhattan Institute Issue Brief No. 32, March 2015. Available at <http://www.robertbryce.com/articles/606-the-hidden-corn-ethanol-tax-how-much-does-the-renewable-fuel-standard-cost-motorists>.

that corn may actually be worse for the environment than petroleum when one takes into account the total amount of greenhouse gas emissions produced as well as deforestation and environmental disruption arising from increases in corn prices and production.⁴

In short, the current ethanol requirement costs Hawaii consumers at the pump, reduces fuel efficiency, and has no proven environmental benefit. It does not help Hawaii agriculture or industry, but rather imposes a hidden tax in the form of higher fuel prices. In light of these facts, the proposed bill appears to be a common sense effort to lower fuel prices and the cost of living in the state.

Thank you for the opportunity to submit our comments.

Sincerely,
Keli'i Akina, Ph.D.
President, Grassroot Institute of Hawaii

⁴ Cimitile, Matthew. "Corn Ethanol Will Not Cut Greenhouse Gas Emissions." *Scientific American*. April 10, 2009. Available at <http://www.scientificamerican.com/article/ethanol-not-cut-emissions/>